WHAT IS CLAIMED IS:

1. A transmission apparatus in a CDMA (Code Division Multiple Access) mobile communication system, wherein transmission frames each have a plurality of time slots, and each of the time slots includes two data parts having the same length, a midamble intervening between the data parts, and a guard period for dividing the consecutive time slots, the transmission apparatus modulating the frames into a radio signal with a modulation signal and transmitting the modulated radio signal using a plurality of antennas, the transmission apparatus comprising:

a power amplifier for amplifying the radio signal;

a controller for generating a switching control signal in a guard period of time slots of a frame associated with the radio signal amplified by the power amplifier; and

a switch for switching the amplified radio signal from the power amplifier between a first and a second antenna in response to the switching control signal.

2. The transmission apparatus as claimed in claim 1, wherein the controller generates the switching control signal in a guard period of the last time slot among the time slots of the frame associated with the radio signal amplified by the power amplifier.

3. The transmission apparatus as claimed in claim 2, wherein the guard period has a length of 96 chips.

4. The transmission apparatus as claimed in claim 2, wherein the controller disables the power amplifier at a start point of the guard period and then outputs the switching control signal when an output level of the power amplifier is lowered to a predetermined level.

5. A transmission method in a CDMA (Code Division Multiple Access) mobile communication system, wherein transmission frames each have a plurality of time slots, and each of the time slots includes two data parts having the same length, a midamble intervening between the data parts, and a guard period for dividing the consecutive time slots, the transmission method modulating the frames into a radio signal with a modulation signal and transmitting the modulated radio signal using a plurality of antennas, the transmission method comprising the steps of:

amplifying the radio signal;

generating a switching control signal in a guard period of time slots of a frame associated with the amplified radio signal; and

switching the amplified radio signal between a first and a second antenna in response to the switching control signal.

6. The transmission method as claimed in claim 5, wherein the switching control signal is generated in a guard period of the last time slot among the time slots of the frame associated with the amplified radio signal.

7. The transmission method as claimed in claim 6, wherein the guard period has a length of 96 chips.

8. A transmission apparatus in a CDMA (Code Division Multiple Access) mobile communication system, wherein transmission frames each have two sub-frames, and each of the sub-frames has (i) a plurality of time slots each including two data parts having the same length, a midamble intervening between the data parts, and a first guard period for dividing the consecutive time slots, (ii) a downlink pilot time slot, (iii) a second guard period and (iv) an uplink pilot time slot, intervening between a first time slot and a second time slot among the time slots, the transmission apparatus modulating the sub-frames into a radio

signal with a modulation signal and transmitting the modulated radio signal using a plurality of antennas, the transmission apparatus comprising:

a power amplifier for amplifying the radio signal;

a controller for generating a switching control signal in a non-transmission period of a sub-frame associated with the radio signal amplified by the power amplifier; and

a switch for switching the amplified radio signal from the power amplifier between a first and a second antenna in response to the switching control signal.

9. The transmission apparatus as claimed in claim 8, wherein the non-transmission period is a first guard period of time slots of the sub-frame associated with the amplified radio signal.

10. The transmission apparatus as claimed in claim 9, wherein the switching control signal is generated in a first guard period of the last time slot among time slots of the sub-frame associated with the amplified radio signal.

11. The transmission apparatus as claimed in claim 10, wherein the first guard period has a length of 96 chips.

12. The transmission apparatus as claimed in claim 8, wherein the non-transmission period is a downlink non-transmission period of the sub-frame.

13. The transmission apparatus as claimed in claim 12, wherein the downlink non-transmission period includes the second guard period, the uplink pilot time slot and the second time slot.

14. The transmission apparatus as claimed in claim 13, wherein the downlink non-transmission period is 875μsec.

15. The transmission apparatus as claimed in claim 8, wherein the non-transmission period is an uplink non-transmission period of the sub-frame.

16. The transmission apparatus as claimed in claim 15, wherein the uplink non-transmission period includes the first time slot, the downlink pilot time slot and the second guard period.

17. The transmission apparatus as claimed in claim 16, wherein the uplink non-transmission period is 825μsec.

18. A transmission method in a CDMA (Code Division Multiple Access) mobile communication system, wherein transmission frames each have two sub-frames, and each of the sub-frames has (i) a plurality of time slots each including two data parts having the same length, a midamble intervening between the data parts, and a first guard period for dividing the consecutive time slots, (ii) a downlink pilot time slot, (iii) a second guard period and (iv) an uplink pilot time slot, intervening between a first time slot and a second time slot among the time slots, the transmission method modulating the sub-frames into a radio signal with a modulation signal and transmitting the modulated radio signal using a plurality of antennas, the transmission method comprising the steps of:

amplifying the radio signal;

generating a switching control signal in a non-transmission period of a sub-frame associated with the amplified radio signal; and

switching the amplified radio signal between a first and a second antenna in response to the switching control signal.

19. The transmission method as claimed in claim 18, wherein the non-transmission period is a first guard period of time slots of the sub-frame

associated with the amplified radio signal.

20. The transmission method as claimed in claim 19, wherein the switching control signal is generated in a first guard period of the last time slot among time slots of the sub-frame associated with the amplified radio signal.

21. The transmission method as claimed in claim 20, wherein the first guard period has a length of 16 chips.

22. The transmission method as claimed in claim 18, wherein the non-transmission period is a downlink non-transmission period of the sub-frame.

23. The transmission method as claimed in claim 22, wherein the downlink non-transmission period includes the second guard period, the uplink pilot time slot and the second time slot.

24. The transmission method as claimed in claim 23, wherein the downlink non-transmission period is 875μsec.

25. The transmission method as claimed in claim 18, wherein the non-transmission period is an uplink non-transmission period of the sub-frame.

26. The transmission method as claimed in claim 25, wherein the uplink non-transmission period includes the first time slot, the downlink pilot time slot and the second guard period.

27. The transmission method as claimed in claim 26, wherein the uplink non-transmission period is 825μsec.

28. A power control apparatus in a UE (User Equipment) for an NB-TDD (Narrow Band Time Division Multiplexing) CDMA mobile communication system, wherein transmission frames each have two sub-frames, and each of the sub-frames has uplink time slots and downlink time slots, each including two data parts having the same length, a midamble intervening between the data parts, the power control apparatus performing power control by receiving a radio signal having the sub-frame structure through a single antenna, the power control apparatus comprising:

a plurality of fingers, each including:

a time demultiplexer for separating a midamble signal from the radio signal having the sub-frame structure;

a power measurer for measuring a power level depending on the midamble signal on a sub-frame unit basis and outputting a measured power level; and

a power control signaling part for receiving measured power levels output from the plurality of fingers, and creating based on the measured power levels a power control command to be transmitted to a Node B over an uplink time slot assigned to itself among uplink time slots of the sub-frame.

29. The power control apparatus as claimed in claim 28, wherein the fingers each comprise:

a sub-frame delay for delaying the measured power level from the power measurer for a time period corresponding to a length of one sub-frame; and

a power measurement combiner for receiving the measured power level from the power measurer and the delayed measured power level from the sub-frame delay, and creating a measured final power level depending on the two measured power levels and a predetermined weight.

30. The power control apparatus as claimed in claim 28, wherein the power control signaling part comprises:

an adder for adding the measured power levels output from the respective fingers;

a subtracter for subtracting a predetermined threshold value from the added measured power level; and

a comparator for comparing a resulting value of the subtracter with '0', and creating the power control command according to the compared results.

31. The power control apparatus as claimed in claim 30, wherein the comparator creates a power-down command requesting an decrease in downlink transmission power if the resulting value of the subtracter is larger than '0', and creates a power-up command requesting an increase in the downlink transmission power if the resulting value is smaller than '0'.

32. A power control method in a UE (User Equipment) for an NB-TDD (Narrow Band Time Division Multiplexing) CDMA (Code Division Multiple Access) mobile communication system, wherein transmission frames each have two sub-frames, and each of the sub-frames has uplink time slots and downlink time slots, each including two data parts having the same length, a midamble intervening between the data parts, the power control method performing power control by receiving a radio signal having the sub-frame structure through a single antenna, the power control method comprising the steps of:

separating by each of a plurality of fingers a midamble signal from the radio signal having the sub-frame structure, measuring a power level depending on the midamble signal on a sub-frame unit basis and outputting a measured power level; and

receiving, by a power control signaling part, measured power levels output from the fingers, and creating based on the measured power levels a power control command to be transmitted to a Node B over an uplink time slot assigned to itself among uplink time slots of the sub-frame.

33. The power control method as claimed in claim 32, wherein the measured power level outputting step comprise the steps of:

delaying the measured power level for a time period corresponding to a length of one sub-frame; and

receiving the measured power level and the delayed measured power level, and creating a measured final power level depending on the two measured power levels and a predetermined weight.

34. The power control method as claimed in claim 32, wherein the power control command creating step comprises the steps of:

adding the measured power levels output from the respective fingers;

subtracting a predetermined threshold value from the added measured power level; and

comparing the resulting subtracted value with '0', and creating the power control command according to the compared results.

35. The power control method as claimed in claim 34, further comprising the steps of:

creating a power-down command requesting an decrease in downlink transmission power if the resulting compared value is larger than '0'; and

creating a power-up command requesting an increase in the downlink transmission power if the resulting compared value is smaller than '0'.